

MISSOURI. Conservationist

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[NOTE TO OUR READERS]

Bluegiggles

Healthy Waters=Quality Fishing=Quality of Life! My daughter's favorite fish early in life was the bluegill. She'd often squeal "I've got a bluegiggle!" when the bobber went

under and the pole arched with the pull of a fish. They are easy to catch and great excitement for youngsters.

Bluegill are often the first-caught fish for Missourians. Millions of kids have grown up fishing for bluegill with a worm under a bobber. They are a great fish to use to teach kids about fishing. Bluegill are abundant and they bite readily, making them easy to catch. They are also wonderful table fare. A fishing pole, a bobber and a few worms are the only necessary equipment.

Bluegill, or as my daughter used to say, "bluegiggles," are a great fish for all ages. A Master Angler Bluegill is one of the hardest trophies to locate and catch for anyone. For the ultimate bluegill sport, try angling for these fine fish with a fly rod or with light tackle.

Many of my family's greatest outdoor memories center around fishing. From our son's first catfish out of Grandpa Hein's pond in the Missouri countryside, to watching both our son and daughter catch king salmon in Alaska, our family has enjoyed some great adventures.

Fishing is exciting. I've had the privilege of working all across our state, and I have routinely seen people and their catch on television, their photographs in newspapers, and radio stations regularly talking about fish and fishing. Missouri citizens enjoy seeing large fish, unique fish and kids with fish. We enjoy sharing each other's fishing success!



A young angler and a nice crappie on one of the MDC's disabled fishing piers. Visit mdc.mo.gov/atlas to find an MDC area to fish near you.

Missouri is one of a handful of states where outdoor enthusiasts continue to maintain their numbers. Missourians' passion for the outdoors, management activities including free fishing days, youth fishing days at trout parks and other venues, youth clinics, urban stocking programs, quality fisheries management and reasonable permit prices support our angling tradition.

How can you help preserve this wonderful fishing heritage? Take a kid fishing! Start them young; fishing is exciting no matter what your age. Fishing is also a great equalizer—youngsters often catch the biggest or most fish on a trip.

Continuing to build upon our collective fishing heritage requires action! We all must be aware and proactive on water quality issues, support soil conservation and

leave our state waters in better shape for future generations.

Enjoy the time and create lasting memories with family and friends by fishing for "bluegiggles," bass, crappie, catfish or any of Missouri's fish. Free fishing days are June 9 and 10. Get out and enjoy Missouri's outdoors. Better yet, promote healthy waters, Missouri's fishing heritage, and your quality of life by taking someone fishing!

Tim Ripperger, deputy director



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by Brett Dufur

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📷 800mm lens + 1.4x teleconverter

• f/8 • 1/100 sec • ISO 1000

Above: Glade coneflowers overlook

Grand Bluffs Conservation Area and the Katy Trail, by David Stonner.

📷 20mm lens • f/1.7 • 1/1250 sec • ISO 100

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CAPITAL FRIENDS

On behalf of Capital Region Medical Center, as the volunteer magazine cart person, I would like to thank you for giving us the *Missouri Conservationist* and *Xplor*. Patients and all waiting room guests enjoy your magazines. I leave *Xplor* in waiting rooms where children may be waiting.

We wanted you to know how appreciative we are for this contribution to our patients and visitors.

Mary Ann Hyleck, Jefferson City

MO FIRSTS FOR ALL

Opening the April issue and reading the article by Tom Draper (Note to Our Readers: *Landowners Make it Possible*) made me think of how diverse our state is and all the exciting firsts I have experienced in the past 58 years. I still remember: my first whitetail deer while hunting, first bald-faced hornets' nest, first wild turkey,

first flock of prairie chickens, first cock pheasant, first family of river otters, first armadillo, first black bear, first brown trout and first musky. Then, just this year, I saw my first wild hog and first bald eagle's nest.

I have to say I know of no other state where I wouldn't be surprised seeing something the first time, and I hope to see many more.

David Chenault, via Internet

HAPPY ANNIVERSARIES!

Thirty years ago, my wife and I moved to Missouri. Throughout our years here we have enjoyed greatly the beauty of this state with all its wildlife, trees, birds and flowers. We have also found the people of Missouri to be very kind and friendly. In short, we are thankful to call Missouri our "home state."

Much of our appreciation of Missouri is due to the work of the Department of Conservation. In this 75th anniversary year, we acknowledge that

you folks have done, and are doing, a magnificent job! My wife and I love to take "nature trips," taking photos of many wondrous scenes. We can do this largely because of your efforts.

God willing, now that we are retired, we plan to spend many pleasant hours "hunting" with our cameras, enjoying all there is to see and do in our beautiful state of Missouri.

Thank you much for all you folks at our Missouri Department of Conservation are doing for our state. Please keep up your good work!

Rev. Ben Schumacher, Aurora

FROM FACEBOOK

This time of year there are many turtles on the road. What should a person do if they find one that has been hit and is still alive but injured?

Krystle Leyva

MDC: Turtles are crossing the road this time of year in search of mates and breeding locations. Keeping highway safety in mind, you can remove them from the road and place them off the road in the direction they were traveling.

If you find an injured turtle, the best thing to do is to remove it from the road and let nature take its course. According to one of our turtle experts, they have a great ability to recover on their own from injuries. If they are too badly injured, there is not much you can do to help them, and they will complete a food chain.

We do not generally rehabilitate wildlife and there is no large rehabilitation center for turtles in the state. However, you can always check with your local MDC office for more local options.

Where can I find the specific codes/regulations for each individual county I plan to hunt?

Sam Wilburn

MDC: If you want to hunt certain conservation areas, you can find out the area regulations by using the conservation atlas or by calling the area manager. All of that information can be found at go.usa.gov/VCZ.



Reader Photo

BLUEBIRD PERCH

Fred Sterle, of Liberty, captured this image of a bluebird perched on a bluebird finial in his yard. "A bunch of bluebirds paid a visit to our 'bird buffet,'" says Sterle, "and this particular bird decided to give me one of those rare candid moments." Sterle says his wife, Christi, has kept a log of their backyard visitors, and they have had at least 75 different species of bird visit their yard. "My wife and I both have office jobs, so being able to enjoy as much time outdoors as possible has always been a goal of ours," says Sterle.



DEPARTMENT HEADQUARTERS

Phone: 573-751-4115
Address: PO Box 180,
Jefferson City 65102-0180

REGIONAL OFFICES

Southeast/Cape Girardeau: 573-290-5730
Central/Columbia: 573-815-7900
Kansas City: 816-622-0900
Northeast/Kirksville: 660-785-2420
Southwest/Springfield: 417-895-6880
Northwest/St. Joseph: 816-271-3100
St. Louis: 636-441-4554
Ozark/West Plains: 417-256-7161

SUBSCRIPTIONS

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OMBUDSMAN QUESTIONS

Phone: 573-522-4115, ext. 3848
Address: Ombudsman, PO Box 180,
Jefferson City 65102-0180
E-mail: Ombudsman@mdc.mo.gov

EDITORIAL COMMENTS

Phone: 573-522-4115, ext. 3847 or 3245
Address: Magazine Editor, PO Box 180,
Jefferson City 65102-0180
E-mail: Magazine@mdc.mo.gov

READER PHOTO SUBMISSIONS

Flickr: flickr.com/groups/readerphotos
E-mail: Readerphoto@mdc.mo.gov
Address: Missouri Conservationist, Reader Photo,
PO Box 180, Jefferson City 65102-0180

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Wildlife DeeCee Darrow

CONSERVATIONIST STAFF

Editor In Chief Ara Clark
Managing Editor Nichole LeClair Terrill
Art Director Cliff White
Staff Writer Bonnie Chasteen
Staff Writer Jim Low
Photographer Noppadol Paothong
Photographer David Stonner
Designer Stephanie Thurber
Artist Mark Raiihel
Circulation Laura Scheuler

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Fishing on Lake Taneycomo

Missouri Lake Projects Set National Standard

Table Rock Lake and Lake Taneycomo are among 10 "Waters to Watch" selected by the National Fish Habitat Partnership (fishhabitat.org). The designation recognizes the importance of strategic conservation partnerships in protecting, restoring and enhancing the two lakes' condition.

Table Rock Lake encompasses 43,100 acres, and Lake Taneycomo covers just over 2,000 acres. The U.S. Army Corps of Engineers estimates the recreational use of Lake Taneycomo alone at between 40 and 50 million visitors annually with the economic value of the fishery estimated at \$41 million in 1997.

MDC and federal agencies identified recreational and agricultural development and population growth as sources of water-quality problems at Lake Taneycomo. In response, the Table Rock Lake Area Chamber of Commerce formed Table Rock Lake Water Quality (TRLWQ) to address the problems. The nonprofit TRLWQ received \$2 million in federal funding and \$667,000 in local matching funds to find solutions.

MDC identified lack of structural habitat in Table Rock Lake as a limiting factor on fish community stability. MDC, in cooperation with Bass Pro Shops, the National Fish and Wildlife Foundation (NFWF) and the Arkansas Game & Fish Commission, launched a five-year project to enhance fish habitat in Table Rock Lake and Lake Taneycomo. This resulted in the installation of 1,650 fish habitat structures at Table Rock Lake. GPS coordinates of structure locations are available at mdc.mo.gov/node/10182. The project also included eight erosion- and sediment-control projects in the Table Rock Lake watershed. The project, with a budget of \$4.5 million, will serve as a pilot program for reservoir fish-habitat efforts nationwide.

Habitat improvements to the upper portion of Lake Taneycomo began in November 2011 and will include large rock structures designed to increase holding areas for trout and other fish, as well as increase locations for anglers to fish.

Projects like these are beyond the resources of any single agency. Public-private partnerships

are vital to addressing these issues. For more information, visit fishhabitat.org.

MDC knows Missourians care about clean water and great fishing and works to help them keep waters clean and productive.

Missouri Schools Trash Litter

Students from 20 elementary and middle schools helped fight litter by participating in the 2012 "Yes You CAN Make Missouri Litter Free" trashcan-decorating contest.

MDC sponsors the contest in cooperation with the Missouri Department of Transportation (MoDOT) as part of the "No MOre Trash!" anti-litter campaign. The contest encourages classes from kindergarten through eighth grade to join the fight against litter by decorating and displaying a large trash can with the "No MOre Trash!" logo and a litter prevention message using a variety of creative mediums. The winning school from each of three competition categories receives a \$200 award. First-place winners are eligible for a \$600 grand prize and trophy.

The OMS Green Team of Oakville Middle School won first place for grades 6 through 8 and the grand prize. Its theme was "Refresh the Earth" to encourage more recycling and less waste and trash in the school and lunch room.

The Elementary Student Council of S.M. Rissler Elementary School won first place for grades 3 through 5, and the El Dorado Springs Elementary School K-2 Gifted Class won first place for grades K through 2.

Missourians care about keeping their outdoors clean. No MOre Trash is one way MDC helps. MDC and MoDOT spend approximately \$6 million annually cleaning up litter.

River "Rumble"

Looking for summer adventure close to home? The 2012 Great River Rumble July 28 through Aug. 4 is a reasonably priced, week-long float trip without logistical hassles.

The nonprofit Midwest River Expeditions organizes a "rumble" each summer on the upper Mississippi River or one of its great tributaries. This year's trip will take 100 to 200 rumbler on a 144-mile excursion from Jefferson City to the confluence with the Mississippi River.

Along the way, paddlers will see bald eagles

and ospreys, jumping Asian carp and other wild-life. They will comb sandbars for arrowheads and artifacts washed out of sunken riverboats, mark the passage of landmarks mentioned in Lewis and Clark's journals and explore the river communities of Bonnots Mill, Chamois, Hermann, Washington, Klondike and St. Charles.

The event is made to order for people who have always wanted to float the Missouri River but who lack the experience or confidence to do it alone. Rumlbers paddle as a group, with power boats fore and aft to ensure everyone stays together and reaches each evening's destination safely.

For full information, visit riverrumble.org, write to Great River Rumble, PO Box 3408, Dubuque, Iowa 52004-3408, or call Rex Klein at 708-747-1969.

Conserving streams attracts thousands of nature-related tourists to Missouri who spend millions of dollars here annually.

Mountain Lions In, Out of Missouri

The most recent news about mountain lions in Missouri is a confirmed trail-camera sighting in Grundy County in April. MDC's Mountain Lion Response Team confirmed the sighting reported by the landowner where the cat was photographed.

It was the 29th confirmed mountain lion sighting in Missouri since 1994.

Mountain lions were part of Missouri's original fauna, but were extirpated by the early 20th century. Evidence indicates that sightings in recent decades are due to young male mountain lions dispersing from western states. MDC has no evidence of a breeding population here.

MDC also has received new information recently about a cougar captured by a trail camera in Linn County in December 2010. That cat was wearing a distinctive radio collar and ear tag, which match those placed on a young male



ASK THE OMBUDSMAN

Q: I'm attaching a photo of a large bug that was in my yard this morning. Can you tell me what it is?

A: The insect in your photo is an adult male eastern dobsonfly.

Although ferocious looking and up to 5 inches long, the adult male insect is harmless because his large pincers don't pinch. The female has much shorter pincers, but hers actually work, and she can inflict a painful bite. Both can fly and are often attracted to lights at night. The adult insects don't eat and live for only a few days, which is why they are not more commonly observed. They mate and the female lays eggs before dying. Most of the insect's life, 2 to 3 years, is spent in the larval stage, under rocks in a stream or river. The larval form is called a hellgrammite and is sometimes used by anglers as a fish bait. The 2-to 3-inch-long hellgrammites prey on the larvae of other aquatic insects and can bite humans with the sharp pincers on their heads.

Q: When I'm walking on gravel bars in Missouri's streams, I frequently see tiny frogs hopping out of my way. Are those young or adult frogs, and what species are they?

A: You are most likely seeing the northern cricket frog, which is a small frog even as an adult—just over an

inch in length. When approached, they will often hop into the water and then quickly swim back to the shore. They do not climb and are most often found on open, sandy or muddy edges of streams or ponds where they feed on a variety of small insects. Our website has more information, including an audio clip of its call at: mdc.mo.gov/node/2909.



An adult male eastern dobsonfly

Ombudsman Tim Smith will respond to your questions, suggestions or complaints concerning Department of Conservation programs. Write him at PO Box 180, Jefferson City, MO 65102-0180, call him at 573-522-4115, ext. 3848, or email him at Ombudsman@mdc.mo.gov.

(continued from Page 5)

cougar captured by biologists near the South Dakota-Nebraska border in April 2010. If this was the same cat, it traveled at least 500 miles to reach Missouri.

Then, in July 2011, a trail camera in northern Wisconsin captured a cougar with the same types of ear tag and radio collar. If these all were the same cat, as experts think is likely, it traveled more than 1,100 miles from its capture site to the latest photo location.

Although this is a long distance, it is by no means the longest mountain lion dispersion on record. Young male mountain lions routinely travel long distances in search of females and territories not already occupied by adult cougars. We will update you on any further sightings of this footloose feline.

Missouri is a great place to discover nature. For more information about mountain lions in Missouri, see Resource Scientist Jeff Beringer's article *Living With Large Carnivores* in the April issue of the *Conservationist*.

Master Conservationist, Hall of Fame

The Missouri Conservation Hall of Fame gained two new members in April, and one new conservationist joined the Missouri Master Conservationists.

At a ceremony April 13 at the Runge Conservation Nature Center in Jefferson City, the Conservation Commission inducted engineer/entrepreneur Earl Hoyt Jr. and career conservationist Paul Jeffries into the Missouri Conservation Hall of Fame.

Hoyt founded the Hoyt Archery Company in 1942, turning his engineering skills into a business

built around archery and bowhunting. Hoyt's Pro Medalist bows dominated four Olympic Games, and his innovations are visible in high-tech compound bows even today.

Hoyt and his wife, Ann, established the Conservation Federation of Missouri's Earl and Ann Hoyt Scholarship Fund for students entering the University of Missouri School of Natural Resources. Many Hoyt scholarship recipients have gone on to successful careers in conservation.

Jeffries began his MDC career in 1948 as a conservation agent in Ste. Genevieve County. His ability to work with private landowners, public officials and conservation organizations to protect and improve resource management did not go unnoticed and, in 1954, he was promoted to the Field Service Section.

As a field service agent, Jeffries quickly realized that MDC had to win over landowners if it hoped to significantly improve wildlife habitat throughout the state. He brought together government agencies, sportsmen and other groups to promote a landowner wildlife initiative offering various forms of assistance such as seed or planting stock.

Hoyt and Jeffries collaborated on two conservation achievements—establishing Missouri's first archery deer season in 1946 and founding the Missouri Bow Hunters Association. Both men served as ambassadors to promote archery and bowhunting in Missouri and were mentors to future enthusiasts.

At a ceremony April 11 at the MDC Headquarters, Oscar "Oz" Hawksley received the title of Master Conservationist. Hawksley, 91, is known to thousands of Missourians whom he taught about the outdoors during a six-decade career. He taught for many years at the University of Central Missouri in Warrensburg, where he developed wildlife conservation courses for recreation majors and students preparing for careers in field biology. Over the course of 30 years, he introduced Missourians to backpacking, canoeing and spelunking through field trips.

Hawksley is a founding member of the Ozark Wilderness Waterways Club and American White-water, a fellow of the National Speleological Society and co-founder of the Missouri Speleological Survey. He is also a founding member of American Rivers, a national organization instrumental in saving threatened rivers.



Youth Turkey Harvest Up

Wonderful weather and an uptick in turkey numbers statewide helped hunters age 6 through 15 harvest 4,319 turkeys during the 2012 youth spring turkey hunt. That is up from 3,898 in 2011.

Each year, MDC sets aside a weekend before the main, three-week spring turkey season for young hunters. Warm, clear weather prevailed during this year's youth season, in spite of the season being held a week earlier than normal to avoid conflict with the Easter holiday.

The youth hunt has gained in popularity ever since youngsters had their first separate hunt in 2001. That year's harvest was 2,530. This year's total was the highest so far, up 9.5 percent from the previous high of 3,945 in 2010.

"The youth hunt is a wonderful opportunity for adults to focus on giving young hunters a good experience," says MDC Resource Scientist Jason Isabelle. "Turkey hunters are passionate about their sport, and they get a lot of satisfaction from sharing it with youngsters. It actually enhances the enjoyment of turkey hunting."

Youth hunting seasons help make Missouri first in hunter recruitment.

YOUTH TURKEY HARVEST: DAVID STONNER

Perhaps his best-known achievement was writing *Missouri Ozark Waterways*. This paddler's guide has encouraged generations of Missourians to develop a personal connection to the state's float streams.

For more information visit mdc.mo.gov/node/7763 or mdc.mo.gov/node/7759.

The Master Conservationist and Conservation Hall of Fame programs recognize Missourians who care about their state's forests, fish and wildlife and play an active role in conserving them.

Conservationist Archive

All issues of the *Missouri Conservationist*, from 1938 to present, now are available online. A partnership between MDC and the Missouri State Archives allowed scanning of issues from 1938 through 1997. These issues are available in the searchable Missouri Digital Heritage database at go.usa.gov/VTW. MDC's archive of *Conservationist* issues from 1995 to present are available at mdc.mo.gov/conmag/archive.

Horton Farm Donation

Antje and Bill Horton loved walking the trails at Pickle Springs Natural Area, located just a few miles south of the Horton farm in Ste. Genevieve County. They had met in Germany in the early 1970s while Bill was serving in the United States Navy, and thereafter found themselves living either overseas or on the East Coast. Periodically, they returned to Ste. Genevieve County for family visits. Bill died in a car accident in 1997. "He loved the farm, a part of which had been in the Horton family for more than a century, and wanted it to be conserved for wildlife and the public's enjoyment. Our estate plan provided that the farm was to be donated," Antje stated from her home in Arlington, Va. In 2007, she offered the 640-acre farm as a donation to the Conservation Department, specifying that the new area be named the Horton Farm Conservation Area. "I wanted to honor my husband's wish to donate the property so that people could have a place to go and enjoy being outdoors. I remember the times when we would go to Pickle Springs [Natural Area], and walk around. I always thought it was such a beautiful place. It is my hope that children and adults alike will enjoy and have similar feelings about the Horton Farm Conservation Area."

Did You Know?

We help people discover nature.

Visit a Natural Area

» **The Missouri Natural Areas program** works to conserve the best remaining examples of Missouri's forests, woodlands, savannas, prairies, glades, cliffs, wetlands, caves, springs, streams and rivers.

» **More than 180 areas and 73,000 acres** are designated natural areas across the state.

» **More than 350 Missouri species of conservation concern** are provided habitat through the Natural Areas program.

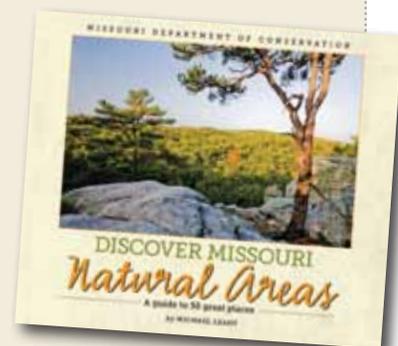
» **Partners make it happen**—MDC, the Missouri Department of Natural Resources, the Mark Twain National Forest, the Ozark National Scenic Riverways, the U.S. Fish and Wildlife Service and The Nature Conservancy all work together to make the Natural Areas program successful.

» **Great recreation opportunities** await visitors to natural areas, including hiking, nature photography, bird watching, nature study, hunting and fishing.

» **Celebrate 35 years** of the Missouri Natural Areas program by planning to visit an area near you.

» **Plan your visit online.** Visit mdc.mo.gov/node/2453 to find a complete listing of areas and to learn more about what each area has to offer.

» **Experience these special places firsthand** by purchasing the beautiful, user-friendly guide *Discover Missouri Natural Areas: A Guide to 50 Great Places*. Author Mike Leahy, MDC's natural areas coordinator, provides natural history information that brings to life the outstanding geological, biological and ecological features of each area. Easy-to-use maps and stunning photographs compliment the text. Purchase this guide at MDC conservation nature centers or mdcnatureshop.com.



The Horton Farm CA is rolling hills with forested ravines and small streams. To learn more, go to mdc.mo.gov/a201009. —by David McAllister

Snaggers: We Need Your Help and Want Your Opinions

Missouri has some of the best paddlefish snagging in the United States. MDC staff have been studying and stocking these prehistoric fish for 40 years but still have much to learn, such as the number of people snagging and the number and size of snagged paddlefish. This informa-

tion can help further improve paddlefish stocking and management.

To obtain the kind of detailed information it now lacks, MDC is considering instituting a paddlefish snagging permit and tracking paddlefish harvest through Telecheck, as it does for deer and turkey. Snaggers and others may have ideas or suggestions about these ideas. We want to hear from them. Please share comments and suggestions at mdc.mo.gov/node/17458.

Paddlefish stocking and management helps make Missouri a great place to fish.



H

EALTHY WATERS ARE ONE of the foundations of our quality of life. We are fortunate to live in a state that has abundant water resources, from the meandering bends of the country's two largest rivers to clear Ozark streams. Missouri has more than 110,000 miles of streams, about 276,000 acres of public lakes and about 300,000 small private ponds. The state bubbles with a thousand springs, including some of the largest in the world. Ensuring that these waters stay healthy benefits our communities, our neighbors downstream and the state's fish and wildlife.

"What is truly amazing is that even though just 2 percent of the state is water, at the same time that our population has doubled, we've seen many of those waters improve through conservation efforts. That is a tremendous accomplishment," says Joe Dillard, retired MDC fisheries biologist. "That benefits our anglers and

our communities as well as the fish and wildlife that depend on our state's streams, rivers and reservoirs."

MISSOURI'S VAST AND DIVERSE WATERWAYS

Our state has one of the greatest varieties of freshwater fish in the nation. The state's waterways connect anglers with a wide assortment of sport fish, from smallmouth bass in spring-fed Ozark streams to big catfish lurking in our northern streams and in the murky waters of our big rivers. From countless ponds, lakes and reservoirs, we fill our pastimes with friends and families, hoping to reel in a keeper.

Fishing continues to be one of our most popular outdoor activities. More than 22 percent of Missouri residents fish sometime during the year. But healthy waters do more than just support great fishing. Missourians depend on both surface water and groundwater sources for drinking water and other uses. Half of the state, including Kansas City and St. Louis, use surface water for their drinking water. The Missouri River is the source of tap water for more than a million people. And many rural Missourians get their tap water from wells.

"Ensuring healthy waters involves many things," says Chris Vitello, MDC fisheries division chief. "MDC works to provide enjoyable fishing and also to maintain aquatic biodiversity, reduce the effects of nuisance species, protect waterway habitats, and inform and educate the public about Missouri's aquatic resources."

The health of Missouri's waterways is directly tied to the health of the lands around it. "By using a watershed approach to conservation, which is looking at all the land that drains into a particular body of water, we can improve water quality by making sure that habitat along stream banks are healthy," says Lisa Allen, MDC state forester. "For example, a healthy forest helps to reduce erosion by making sure that sediment doesn't enter a stream and block out light, killing aquatic plants or preventing their growth. And forest canopies help shade waters and keep stream temperatures constant, which benefits stream life."

Broad partnerships make watershed conservation work. MDC works with citizen Stream Teams, as well as other agencies, such as the Missouri Department of Natural Resources and the U.S. Department of Agriculture's Natural Resource Conservation Service to ensure that healthy waters continue to benefit people and wildlife.



The health of Missouri's waterways is directly tied to the health of the lands around it. The Eleven Point River near Alton has healthy forests surrounding it, helping to reduce erosion by making sure that sediment doesn't enter a stream and block out light, killing aquatic plants or preventing their growth.



STREAM TEAMS

Stream Teams help Missourians conserve and improve more than 110,000 miles of streams through stream cleanups, tree plantings, water quality monitoring, storm drain stenciling and by leading educational projects.

4,321 Stream Teams throughout the state focus the can-do attitude of more than 76,000 volunteers, which contributed more than 146,000 hours last year to enhance and restore Missouri streams. Since the program began, Stream Teams have performed 1.7 million hours of volunteer work and have removed more than 8,000 tons of trash from Missouri's waterways.

"The benefit to Missouri streams is incalculable. This is citizen-led conservation at its best," says Sherry Fischer, MDC stream services program supervisor. "After gaining a firsthand knowledge of the problems, solutions and needs of Missouri's streams, volunteers are also better equipped to speak out on behalf of healthy waters."

Missouri Stream Team is a joint effort of MDC, the Conservation Federation of Missouri and the Missouri Department of Natural Resources. Today, Missouri's Stream Team program is nationally recognized and serves as a model for other states. Anyone can join. For

Missouri's wetlands, such as this one on Eagle Bluffs CA, actually support more plants and animals acre for acre than nearly any ecosystem on Earth. Early settlers figured wetlands were too productive to leave to frogs and ducks, and during the 1800s and early 1900s, 87 percent of Missouri's marshes and swamps were drained or filled. In 1946, the Department began intensive efforts to restore more than 110,000 wetland acres. Waterfowl populations, which use Missouri's wetlands as critical pit stops during migration, have responded favorably, reaching numbers not seen since the mid-1950s.

help forming a Stream Team or finding an active one in your area, call 1-800-781-1989 or visit mostreamteam.org.

URBAN WATERSHEDS

Watersheds link our land and communities through water. Regardless of where you live in Missouri, you are a part of a watershed that drains to a local creek, which in turn eventually joins the Missouri or Mississippi rivers. We each play a part in ensuring that healthy waters reach our neighbors downstream.

The quality of our water depends on how we use the watershed surrounding it. Natural landscapes easily absorb rainfall. Altered landscapes, including both rural and urban development, cause higher rates of runoff. Urban landscapes include mostly hard surfaces such as pavement, buildings, roads and roofs. Even lawns, with their shallow root systems and compacted soil, act like impervious surfaces.

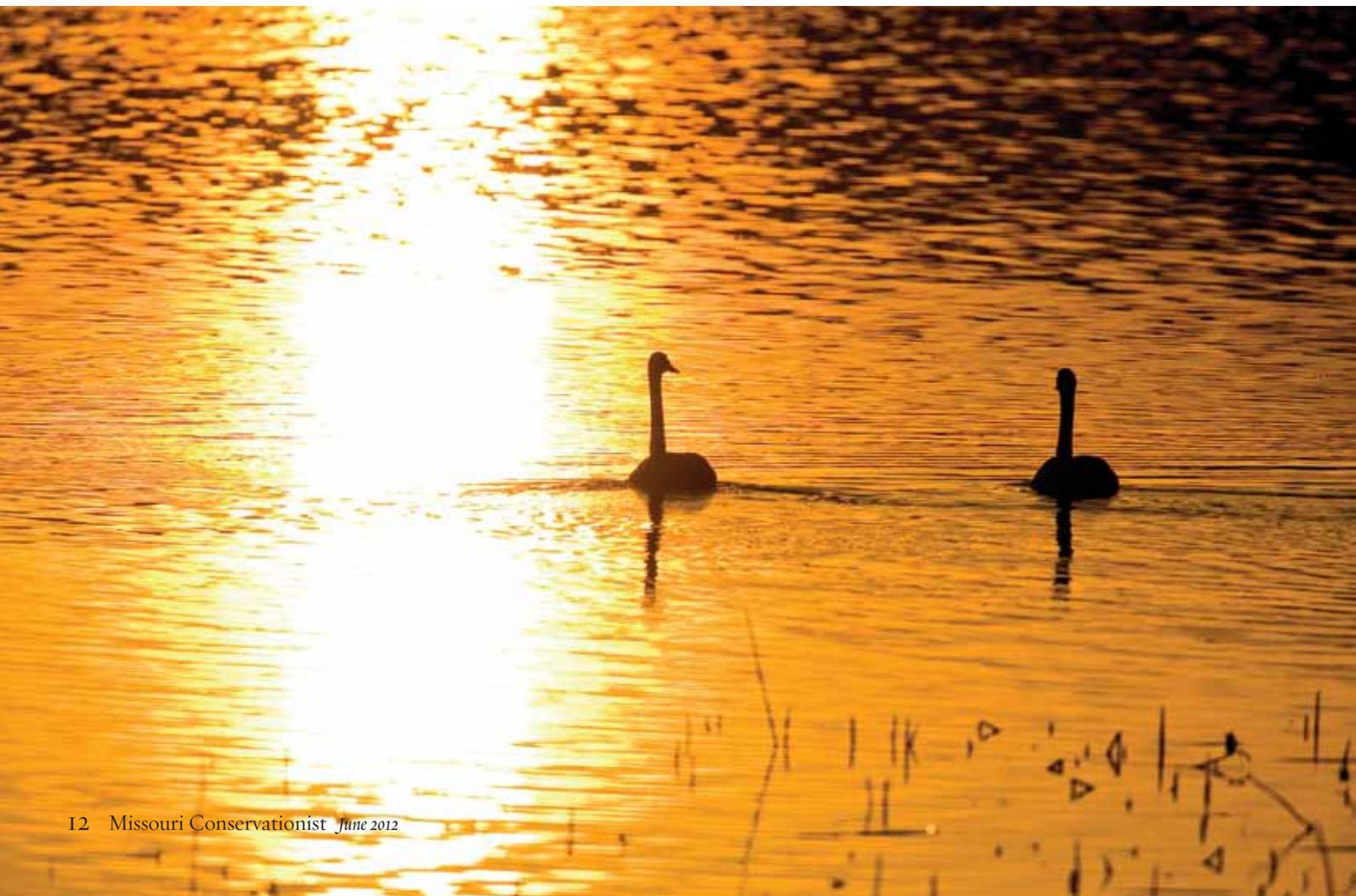
When rain hits these areas, everything in its path, including pesticides, fertilizers, trash, detergents, pet waste, motor oil and more, can flush into storm drains that lead directly to streams and rivers. This creates

A pair of trumpeter swans swim at sunset at Squaw Creek National Wildlife Refuge near Mound City. The Department strives to provide healthy and sustainable fish and wildlife habitats along Missouri's big rivers and has broad partnerships to help achieve these goals.

polluted storm water that can harm aquatic life and make rivers unsafe for swimming and fishing. The large amount of impervious surfaces in urban areas also increases the quantity of storm water entering our waterways leading to erosion and flooding problems.

“A typical city block can generate five times more storm water runoff than a forested area of the same size,” says Angie Weber, MDC community conservation planner.

Ensuring healthy water involves the efforts of everyone. Fortunately, many communities, such as St. Louis, are doing their part to improve watershed conservation. In conjunction with MDC's community conservation planners, St. Louis installed specially designed pervious concrete sidewalks and 52 rain gardens to capture and treat storm water along South Grand Boulevard, helping to improve area streams. The rain gardens are basins with native plants that act like a sponge, soaking up rainwater that runs off roofs, roads and other hard



surfaces. Rain flows through the pervious sidewalks into rock storage areas below, and then water slowly filters into the ground.

BIG RIVER CONSERVATION

MDC is also active in promoting healthy waters and habitats along the Missouri and Mississippi rivers. “Missourians are becoming more connected to the big rivers,” says Mark Boone, MDC big river specialist. “The public fishing opportunities are great thanks to MDC sport-fish management efforts, and MDC has greatly improved access with more conservation areas as well as boat ramps developed in partnership with communities all along the rivers. Additionally, national attention on big river water quality has helped promote important habitat conservation work along the Missouri and Mississippi rivers.”

The Department strives to provide healthy and sustainable fish and wildlife habitats along the big rivers. MDC works with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and other federal and state agencies to implement ecosystem-based management of the Missouri, Mississippi and White rivers and their floodplains, which focus on natural resource conservation and enhancing recreational opportunities. For example, MDC has been able to increase and enhance wetland habitats such as seasonal wetlands and bottomland hardwoods. MDC cooperates with other agencies on the Upper Mississippi River Environmental Management Program for biological monitoring and habitat restoration, and provides input to the Upper Mississippi River Navigation and Ecosystem Sustainability Program, both funded by the U.S. Army Corps of Engineers.

“Improvements to wetlands at conservation areas, such as Fountain Grove, Eagle Bluffs, Duck Creek, Columbia Bottom and B.K. Leach Memorial, just to name a few, provide critical habitat for resident animals and migratory waterfowl. These areas also provide important recreational value for Missourians,” says Paul Calvert, MDC fisheries division field operations chief.

“Interested landowners and conservation groups have also been instrumental in wetland conservation,” says Calvert. “The Confluence Partnership is an excellent example of the value of partnerships and citizen conservationists in improving fish and wildlife habitats.”

The Confluence Partnership is a team of nonprofit partners, such as the Great Rivers Habitat Alliance and



Missouri Stream Team is a joint effort of MDC, the Conservation Federation of Missouri and the Missouri Department of Natural Resources. Today, Missouri's Stream Team program is nationally recognized and serves as a model for other states. Stream Teams help Missourians conserve and improve more than 110,000 miles of streams through stream cleanups, tree plantings, water quality monitoring, storm drain stenciling and by leading educational projects.

Ducks Unlimited, and a core of 20 cooperating local, state and federal agencies. They have conserved more than 13,000 acres of land near the confluence of the Missouri and Mississippi rivers to help improve water quality and provide more outdoor recreation opportunities.

CONSERVING WETLANDS THROUGH WRP

Wetlands once made up almost 11 percent of the state's presettlement acres, or 4.8 million acres. Today, wetlands cover close to 850,000 acres in Missouri, up from less than 640,000 acres, thanks to several restoration programs available to landowners. The Wetlands Reserve Program (WRP) is considered the nation's premiere wetland restoration program, having vastly increased and improved our country's wetlands.

The U.S. Department of Agriculture's (USDA) Natural Resource Conservation Service (NRCS) administers the WRP program. Beginning in 1995, wetland emphasis teams made up of NRCS and MDC personnel were developed to assist landowners with all aspects of their wetland management plans.



The faster rainwater drains off surfaces, the quicker ditches, streams and rivers reach their flooding points. Water that drains slowly has a greater chance of being absorbed into the ground. Help slow down runoff by mowing less, creating rain gardens and using gravel and other porous surfaces for driveways.



Livestock can cause streambanks to erode, sending soil into the water where it clogs fish gills and blocks sunlight from aquatic plants. Fence livestock off and provide an alternate water source. MDC offers a cost-share program that reimburses a portion of the cost of such a system.

“This blend of expertise is why Missouri is one of the top five states in the nation for restoring wetlands,” says Kevin Dacey, Missouri NRCS state office natural resource specialist and WRP coordinator. “Missouri’s success is proven in the numbers. Almost 900 WRP tracts cover 137,000 acres of restored wetlands.”

“There are numerous benefits from wetland restoration,” says Dacey. “Wetlands are like sponges during floods. They retain floodwaters and then release them slowly. They also recharge ground water and help improve water quality. Many wetland plants and algae absorb excess nutrients in the waters passing through the wetland. One of the best features of wetlands is the recreational opportunity they offer seasonally from hunting and fishing to bird and wildlife watching.”

PARTNERSHIPS BENEFIT STREAM LIFE

Partnerships are also improving stream connectivity, important for many fish species. In one recent MDC cost-share project, a Niangua River clear-span bridge was constructed at Williams Ford in Dallas County. This bridge improves access for residents during floods and enhances critical habitat for the state endangered Niangua darter by improving stream connectivity and aquatic organism passage. Projects that stabilize and improve Niangua darter habitat benefit numerous other aquatic species.

In another project, MDC assisted the Shannon County Commission with installation of a low-water

“CANARIES” FOR HEALTHY WATERS

Aquatic threatened and endangered species are often the equivalents of “canaries in the coal mine.” They are indicators of healthy waters—both above and below ground. Working to conserve these endangered species generally means improving water quality, which ultimately benefits other aquatic species as well. It also ensures healthy waters for the people who depend on it for drinking water and other uses.

One such species, the Ozark hellbender, could be readily found in many of Missouri’s clear cold-water streams until the 1980s. But the populations of these long-lived, large aquatic salamanders have declined significantly due to habitat degradation, poor water quality and other factors. Habitat restoration and population reintroductions are attempting to reverse this decline. Hellbenders depend on crayfish for their main diet, so the loss of the species could trigger a shift in the aquatic food web. Poor water quality may also result in the decline of other cold-water stream species.

Mussels are another water quality canary in the coal mine. They feed by filtering water through their gills—often purifying the water in the process. They are indiscriminate filterers. What they don’t actually consume is released

back into the water, becoming food for small invertebrates. Mussels are not tolerant of elevated pollution levels, so a drop in numbers can signal water quality issues that may soon affect other aquatic species as well.

Small headwater dams, road crossings and diminished flows reduce the continuity of streams and the usable habitat for fish. The Topeka shiner, a minnow that once occurred throughout prairies in the Missouri River watershed, is now endangered and found only in a few small, isolated headwater streams. As prairies have experienced disruptions in flow and stream continuity, drought and sedimentation have become more intense. The lack of adequate habitat for Topeka shiners is similar to a lack of air for the canary in the mine.

Many aquatic canaries in our underground streams and caves are much harder to see and understand. The Tumbling Creek cavesnail is a tiny snail found in only one cave system in the world—in Taney County. In the 1990s, surveys showed this cavesnail was in decline. A decade ago, only 30 were found in the entire cave, probably due to poor land management and leaky septic systems in the watershed above the cave. Private landowners have reduced erosion and repaired septic systems, which have helped improve conditions for this species.

A watershed approach to preserving a healthy underground habitat for this tiny snail



Mussels are a water quality “canary in the coal mine.” They cannot tolerate elevated pollution levels, so a drop in numbers can signal water quality issues.

invigorated the local community and school to work toward improving water quality above and below ground. This ultimately benefits the community, their neighbors downstream and the lowly cavesnail.

If an aquatic species is declining due to poor water quality or lack of water, it’s important for us to take notice. They could be our canary in the mine, warning us to improve our streams—otherwise, our community’s healthy waters may soon be at risk, too.

articulating concrete mattress crossing on Mahan Creek. Mahan Creek is a tributary to Jacks Fork River, which is part of the Ozark National Scenic Riverways. The original crossing used the natural stream gravel bed. The county used to dump truckloads of road rock after every high-water event. The new articulating concrete mattress allows for the passage of sand and gravel over the crossing during high-flow events while maintaining stability and provides an ideal surface for aquatic organism passage.

To help fund both projects, MDC secured a grant from the Missouri Conservation Heritage Foundation through their Stream Stewardship Trust Fund, and other sources. MDC provided engineering design and technical guidance and local governments installed the projects. Similar projects involving a variety of partners and designed to enhance aquatic organism passage are underway at selected locations across the state.

QUALITY WATER MEANS QUALITY LIFE

Missourians have proven that healthy waters are important. They remain dedicated to that foundation of our quality of life in many ways. These efforts continue to benefit people and wildlife, wherever we live. MDC works with Missourians from throughout the state to involve and inspire them to get involved with Stream Teams and with community efforts to improve water quality.

“Missouri is a world-class place to hunt, fish, float, bird watch, hike and experience nature,” says Robert L. Ziehmer, MDC director. “Those opportunities wouldn’t exist without the hard work done by countless generations to ensure the health of our state’s vast waterways. For the past 75 years, MDC has worked with Missourians, and for Missourians, to make sure that healthy waters benefits us where we live and where we go to enjoy the outdoors.” ▲



Conservation CYCLING

A biker's-eye view of Missouri's wildlife

by THERESA E. NELSON • photos by DAVID STONNER



A rider bikes through a Rocheport train tunnel on the Katy Trail next to Diana Bend Conservation Area.

STEEP, FORESTED BLUFFS hugged one side of the trail, marshy forests and lush wetlands the other. Treetops from either side of the trail created a shady canopy above and gave the feeling of traveling through a leafy tunnel. The humid, summer air was spiced with aromas from numerous wildflowers and blankets of green vegetation. A cacophony of birds twittered their news, while turtles basked on logs in nearby wetlands. I sighed. The Katy Trail State Park was more diverse, peaceful and beautiful than I had expected.

For an extended, high-school graduation celebration trip, my daughter and I had decided to bike the Katy Trail to access multiple conservation areas across the state. The Katy Trail's crushed limestone trail meanders through some of Missouri's most diverse landscapes, wildlife habitats and conservation areas. Though we limited our scope to biking and enjoying nature close to the trail for our first full-length trip, the options were amazing. Numerous conservation areas along the Katy Trail offer great hiking, fishing and boating opportunities.

Cycling the state's conservation areas can be a great adventure for all ages and ability levels (just research the terrain before your trip). Day trips to individual areas can be just as exciting as longer trips (visit mdc.mo.gov and click on "conservation areas" to research areas and trails).

The Katy Trail is America's longest rails-to-trails project. It is also Missouri's longest and skinniest state park. It meanders 237 miles across the state, from Machens to Clinton, along



Fishermen enjoy the day out on Moniteau Creek at the Katy Trail bridge and Diana Bend CA. The Katy Trail is Missouri's longest park, which meanders 237 miles across the state.

the former corridor of the Missouri-Kansas-Texas Railroad. About two-thirds of the trail follows the Missouri River and the original route of Lewis and Clark during their 1804–1806 westward exploration. Scattered every 10 to 15 miles along the Katy Trail are trailheads with parking, water and restroom facilities. These depots also offer shady benches and information kiosks with area history and trail maps.

We biked from our home in Columbia and connected with the Katy Trail State Park in McBaine. We were in the middle of the Katy Trail, and headed east toward St. Charles (the trail now extends an additional 12.6 miles northeast to Machens).

We averaged 40–50 miles a day and stayed at bed and breakfasts along the trail. This pace was perfect. It gave us plenty of time to explore and yet still arrive at our accommodations early enough to relax.

More Nature Than People

Our bikes let us coast through nature without disturbing or scaring off wildlife. We left all electronics at home, except for a cell phone, so silence and peacefulness enveloped us. We'd ride miles and not see anyone. We felt like we were in a different world where time slowed down. It was a great escape from modern life.

The birdwatching was excellent. Hawks, eagles and vultures circled overhead, woodpeckers drilled for insects, ducks and geese

Tricks of the Trail

Before setting out on the Katy, be sure to visit the Missouri State Parks Katy Trail website at katytrailstatepark.com for updates and advisories. We always carried extra food and two water bottles, since there can be extended distances between towns with no services. It's important to stay flexible, set reasonable goals and carry some extra supplies, just in case. Be sure to plan any restaurant or lodging stays in advance. Many small towns have limited services on weekdays, or may be booked solid on weekends.

To prepare for our trip, we bought *The Complete Katy Trail Guidebook* by Brett Dufur, visit BikeKatyTrail.com, the Katy Trail State Park website and the Missouri Department of Conservation's website at mdc.mo.gov. We also researched the landscapes we would we pass through and the plants and animals we might see.



A Katy Trail biker camps for the night at Davisdale CA in New Franklin.



The 8,258-acre Weldon Spring CA in St. Charles offers additional hiking, biking, fishing and hunting opportunities.

swam in ponds, blue herons and egrets fished in vast wetlands, and lots of bluebirds, goldfinches, cardinals and songbirds darted through the green canopy around us. Rabbits raced through the underbrush, woodchucks stood to watch us pass, and deer and turkey foraged in the fields. We saw more turtles dozing on logs, frogs, grasshoppers and salamanders than we could count. One day we saw a large black snake contentedly sunning itself on the rocks near the trail.

Machens to North Jefferson:

The Katy Trail State Park's easternmost trailhead is Machens. The trail then follows the northern bank of the Missouri River from St. Charles to North Jefferson. On this stretch, dolomite and sandstone cliffs, covered with vegetation and trees, hug the trail as it winds through rich bottomland farms and forests.

Near the eastern end of the trail, about five miles of the Katy Trail traverse the 8,359-acre **Weldon Spring Conservation Area**, which offers additional hiking, biking, fishing and hunting opportunities. Though few remnants remain today, during World War II, more than 5,000 people worked here in more than 1,000

buildings producing 700 million pounds of TNT. Later, the U.S. Army built a uranium ore processing plant and then later produced herbicides. In 1985, the U.S. Department of Energy took over the site and cleaned it up.

From within Weldon Spring Conservation Area, the Hamburg Trail offers access to the **August A. Busch Memorial Conservation Area**, a 6,987-acre area containing 3,000 acres of forest in addition to grassland, cropland, old fields, prairie and wetlands. The area has a visitor center, boat rentals, picnic areas, pavilion, hiking trails, fishing jetties, fishing docks, staffed fire-arms range, archery range and viewing blinds. There are 32 fishable lakes and ponds totaling 550 acres and hunting opportunities.

The 223-acre **Grand Bluffs Conservation Area** is located in Bluffton. A two-mile hike through maple and oak forests leads to an observation deck located high atop some of the tallest bluffs along the trail, offering majestic views of the river and bottomland fields. The trailhead to this bluff-top hike is just a short ride down Bluffton Road.

Between Portland and Steedman, the Katy Trail crosses the **Reform Conservation Area**.



The majority of the area provides recreational opportunities, including hiking, nature study, hunting and fishing. The area is also known as a good place to collect blackberries in the summer months.

North Jefferson to Boonville:

The trail from North Jefferson to Boonville continues to follow the Missouri River as it winds through thick forests and bottomland and beside towering bluffs ranging from limestone to sandstone.

West of Hartsburg, the Katy Trail runs alongside the 657-acre **Hart Creek Conservation Area** with its camping area and fishable pond. Just south of the trail, along the Missouri River, is Hartsburg Access, which has a boat ramp and parking area.

East of McBaine is the 4,431-acre **Eagle Bluffs Conservation Area**. Columbia's treated municipal wastewater supplements the needs of the 1,200-acre wetlands. There are 17 wetland pools, forest and woodland, grassland, fishing and hiking areas. A steep trail, accessible from the Katy Trail, leads to an observation deck at the top of the bluffs. Hiking, camping, fishing,



hunting (especially for waterfowl, blinds are available), and eagle viewing are popular activities at this area.

Just south of Rocheport is the Manitou Bluffs region, perhaps the most photographed stretch of bluffs along the trail. The bluffs formed as the weight of a massive ancient ocean compressed the skeletal remains of sea creatures. Several miles south of Rocheport you can still see faint pictographs painted high on the bluffs by early Native Americans.

A killdeer performs a distraction display at the grassland prairie at Bryson's Hope CA between Windsor and Green Ridge.



A family takes a break at Weldon Spring CA. About two-thirds of the trail follows the Missouri River and the original route of Lewis and Clark during their 1804–1806 westward exploration.

Right before biking through the 1893 train tunnel in Rocheport, the 1,016-acre **Diana Bend Conservation Area** begins. There is primitive camping, fishable ponds and hunting. Missouri River frontage is within hiking distance. The Missouri River and Moniteau Creek provide good fishing, but visitors need a boat to access them. A 3-acre scour hole on the west portion of the area provides walk-in fishing. A disabled-accessible wildlife viewing blind exists at the base of the bluffs just west of Rocheport. A viewing platform also offers a commanding view of the floodplain from atop the bluffs.

As the Katy Trail crosses Highway 40, west of Rocheport, the trail runs through the **Davisdale Conservation Area**. This 2,701-acre area features more than 800 acres of riverhills woodland, which includes pecan and walnut, large tracts of warm- and cool-season grasses interspersed with old fields, legumes and shrubs. This area is more than half forest. It also contains loess hills, cropland, old fields, grassland and prairie and features primitive camping, 17.5 acres of fishable ponds and good hunting access. From here you can also see a series of scenic limestone bluffs carved by the Missouri River, which flows 1.5 miles away.

Boonville to Clinton:

At Boonville, the Katy Trail crosses the Missouri River and heads southwest, and the trail transi-

tions from the flat bottomlands into the Osage Plains region. The terrain is slightly rolling, and is dotted with deep woods and river bottoms from Boonville to Pilot Grove. More open spaces start appearing, with more farmland and ranches along the trail.

Green Ridge to Clinton brings you into a new landscape, with miles of open prairie on either side of the Katy Trail being restored to tallgrass prairie. Due to lack of shade, locals call it the “gauntlet.” Prairie chickens and grassland birds make the prairie their home.

The 288-acre **Bryson’s Hope Conservation Area**, in Bryson, is being intensively managed for the recovery of the greater prairie chicken, an endangered species in Missouri. This area is managed by the Department of Conservation to provide optimum nesting and brood-rearing habitat not only for prairie chickens, but other grassland species, as well. Birdwatching and hunting are allowed at Bryson’s Hope Conservation Area.

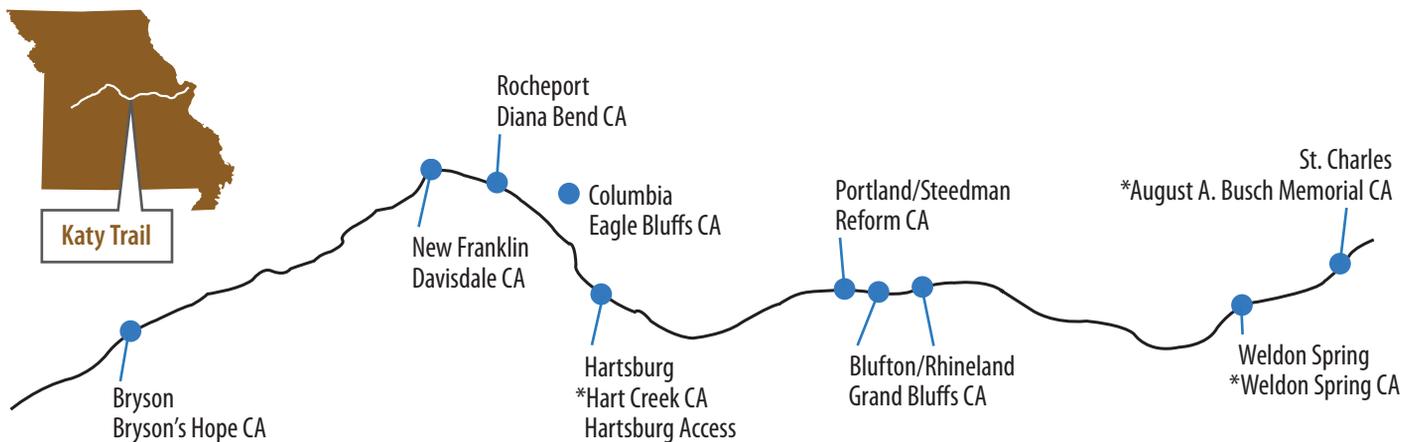
Back Home

It was an exciting moment when we arrived back at Columbia. We’d biked both ways, covering more than 450 miles. We were a little sore, but elated at what an adventure we’d had. We fell in love with the trail and “conservation cycling.” Each day we enjoyed ever-changing scenery, met new people and experienced a biker’s-eye view of Missouri’s wildlife. ▲

Conservation Lands Along the Katy Trail

Check out one or all of these Katy Trail-accessible areas.

* Areas with designated biking trails







To Sell or Not to Sell

If you're interested in harvesting timber on your property, there are a few questions to consider.

by MIKE FLEISCHHAUER

CONSERVATION DEPARTMENT FORESTERS receive many questions from landowners. The most common questions are about selling timber, including:

- Are my trees ready to sell?
- How much are they worth?
- Can you recommend a good logger?
- How do I make sure my land isn't messed up in the process?
- What do I do after the sale?

Here are a few questions to answer when you are considering selling your timber.

Consideration #1: Why do you want to sell your trees?

Often, people consider selling their timber for financial reasons. While this may be one good reason to begin looking at a timber sale, there are many natural signs that indicate the need for a timber sale. These signs may include:

- Scrawny trees with small canopies competing for sunshine and survival.
- A certain species of tree may be dying in mass quantities, hinting at disease or pest issues, which are usually made worse by overcrowding.
- A natural disaster has destroyed portions of the woods, leaving trees on the ground that can be sold.
- One kind of tree is aggressively taking over the woods, creating undesirable wildlife habitat.

Any of these reasons could indicate that your woods would benefit from a targeted thinning.

Consideration #2: Are your trees sellable?

Depending on local markets, many loggers will not be able to sell trees smaller than 12 inches in diameter. Timber buyers prefer trees much bigger. If your trees are smaller than this, then you should consider removing them yourself, marking them for a firewood cutter or paying a contractor to cut them as part of a timber stand improvement. Another thing to consider is the size of the area needing to be harvested. Sales less than 20 acres may be difficult because of having a lack of volume to harvest. Loggers have fixed costs involved with getting their equipment to a property, so if only a small acreage of timber is up for sale, or it is very far away from a buyer, it may not be sellable or may only be sellable at a very low price.

Possibly one of the most frustrating things to consider when thinking of selling timber is access to the trees.

One thing to consider when thinking of selling timber is access to the trees. Situations can arise where large quantities of timber simply can't be harvested because to do so would show complete disregard for the land, equipment and safety of the loggers.

Unfortunately, situations arise where large quantities of excellent timber simply can't be harvested because to do so would show complete disregard for the land, equipment and safety of the loggers.

Consideration #3: How do you want to sell your trees?

If you decide your woods need a timber harvest, and the timber is sellable, the next aspect to consider is how the timber should be sold. There are two basic ways that timber can be sold. The first is a lump sum sale where a given number of marked and measured trees are sold to a buyer for a given price as bid by the buyer. This is the most commonly suggested way to conduct a timber sale so that the buyer and the seller know exactly what is expected of them.

The second way to sell timber is on a shares basis, or sale by unit. This type of sale means that either the landowner will receive a certain price per board foot sold (A board foot is the standard measurement of wood volume.), or they will receive a given percentage of the income generated from their trees being sold to a lumber mill. The buyer and seller of the timber agree on a price or percentage up front that they feel is fair for the trees being



removed from the woods. The income is generally based on the tickets received from the lumber mill when logs are delivered. This method is recommended when there is something unknown about the trees being sold, such as storm-damaged trees, poor quality trees or when the sale is risky for the buyer. No matter what kind of method you use to sell your trees, you should always use a written contract and agree upon specifically indicated trees to be included in the sale.

Qualities of a Good Timber Harvest

Cutting trees is the most valuable tool in a forester's toolbox to improve forest health and vigor; however, if done improperly, it can degrade the woods and take many generations to recover. Harvesting trees will always look messy for a few years afterward, even if it's done right. But there are things to watch for to indicate excessive and unnecessary damage. It will likely rain sometime during a logging operation. This is not a problem if logging roads and trails are properly planned and built. Continuing logging operations when the ground is very soft can result in large ruts and erosion. Generally, ruts more than 6- to 8-inches deep means that the ground is too soft for operations. Another common issue is damage to trees that are not being harvested. Cutting down trees is a difficult and dangerous job. You should expect a certain amount of damage from falling trees or by bumping trees as logs are dragged from the woods. While this is inevitable and unavoidable, this can and should be minimized by careful logging techniques. A good rule of thumb is that no more than 10 percent of your leave trees should be damaged. The best way to tell if logging is being done right is to visit the woods often during logging, look for excessive damage and communicate with the logger about any concerns you have.

Timber harvesting is not over when the last log leaves the woods, or at least it shouldn't be. The point of doing any sort of forest management (whether it is harvesting, doing timber stand improvement, woodland prescribed burning or even replanting) is to improve habitat and tree quality for the rest of that forest's life. One way to protect the quality of the woods is to make sure the soils stay in the forest where they can continue to support the growth of trees, plants and shrubs. After logging is finished, the trails and landings necessary for getting the trees out of the woods may need some help healing to keep them from becoming a permanent scar on the land. Some may be just fine to leave to heal on their own, while others may need best management practices implemented to prevent erosion. This can include installing water bars, culverts or other water diversion structures to divert water off the



The point of doing any sort of forest management, whether it is harvesting, timber stand improvement, woodland prescribed burning or even replanting, is to improve habitat and tree quality for the rest of that forest's life.

trails and landings. You could also spread wheat, clover or other native herbaceous plant seed so that the bare dirt can find some cover from direct rain and so there will be some roots to hold the soil in place.

Also look at what has been left to grow in the forest to become the next stand of trees that will dominate the woods. Sometimes harvesting has only removed a portion of the trees that need to come out, and there still are unhealthy, poor quality trees left standing. If too many of these are left, you will have a forest filled with crooked and dying trees. It may become necessary to cut out the remaining poor trees as part of a timber stand improvement. Even though a harvest may look messy for a while, if you leave good quality trees and good soil for them to grow in, you will set the stage for a thriving future generation of trees that will be faster growing, more disease and insect resistant, better for wildlife and more valuable in the future.

Removing trees from the forest is a simple process as old as the settlement of Missouri itself. However, it can be very overwhelming because of the lasting impacts the harvest can have on the land. ▲

For More Information

Landowners who have more questions can contact the Department of Conservation for assistance or request a free packet on timber sales by calling 888-564-7483 or visiting callb4ucut.com. A Missouri consulting forester can be found at missouriforesters.com.

Black-crowned night-heron

Twilight is a great time to spot these beautiful anglers in the lowlands of the Mississippi River.

AS THE SNOWY egret floated to the ground, its delicate plumage swirling in the wind, I almost shouted, “Stop—it’s not safe!” A moment later, even before the snowy’s golden feet found purchase at the edge of the waterfall, it was blindsided by the black-crowned night-heron, proprietor of the little stream. I watched as the brutish heron with the body of a high-school wrestler gave the oblivious intruder a lesson about boundaries.

The black-crowned night-heron (*Nycticorax nycticorax*) arrives in Missouri each year as the last days of spring give way to summer. Easily distinguishable from other herons, it has a stocky body, short neck, thick black bill and bright red eye. As its name implies, the black-crowned night heron has a black cap that extends down its back between gray wings that flank its underparts of creamy white. Finally, to solidify its status as a “handsome bird” the black-crowned night-heron sports a double plume that emerges from its nape and hangs freely like a ponytail.

Although the black-crowned night-heron is considered the most widespread heron in the world, it is not commonly spotted in Missouri by casual observation. Bird watchers look for this species at the margins of the day, near sloughs and wetlands where tree cover is nearby. I saw my first black-crowned night-heron several years ago as it fed along a tree-lined slough near the Mississippi River at Columbia Bottom Conservation Area in St. Louis County. It was early evening, almost twilight, the perfect time to see my first “night-heron.”

Last summer, a black-crowned night-heron frequently visited St. Louis’ Forest Park and staked its claim to a tiny waterfall in a creek. I photographed it several times as it stood like a grizzly bear in the turbulent water, waiting to grab an errant sunfish. I was fascinated by the patience of this individual as it stared intently at a single point in the water for up to 20 minutes. In my experience, black-crowned night-herons do not abide other herons in their vicinity when feeding, and my photographic subject at Forest Park was no exception. If an unsuspecting snowy egret, or any other heron, even entered the airspace above the waterfall, my stout friend launched a relentless attack. Fortunately, ducks and other non-heron species were given a free pass through the area without intimidation.

Black-crowned night-herons are mainly found in the lowlands along the Mississippi River and while considered uncommon in Missouri, local concentrations are common. They often build their nests, platforms of sticks, in the same tree as other heron species, apparently taking leave from the territorial feeding behavior I’ve observed. Juveniles leave the nest in late summer and while quite similar to juvenile yellow-crowned night-herons, the two are distinguishable with a little practice. If you would like to see a black-crowned night-heron for yourself, I recommend a summer visit to any of MDC’s conservation areas along the Mississippi River. To find conservation areas, visit mdc.mo.gov/node/8911.

—Story and photo by Danny Brown

 500mm lens + 1.4x teleconverter • f/8 • 1/125 sec • ISO 200

We help people discover nature through our online field guide. Visit mdc.mo.gov/node/73 to learn more about Missouri’s plants and animals.





Mark Youngdahl Urban CA

Enjoy multi-use trails, wildflowers and bird watching at this urban wildlife refuge in St. Joseph.



IF YOU PLAN to be around St. Joseph in June, stop by the Mark Youngdahl Conservation Area (CA) to enjoy the area's trails and wildlife-viewing opportunities. The area is named for Mark Youngdahl, who was a Missouri state representative from 1970 to 1990 and a St. Joseph City Council member until his death in 1993. He worked diligently to acquire this urban area for the Conservation Department, and his legacy helps residents and visitors discover and enjoy nature inside the city limits.

The 85-acre area's two-mile trail system accommodates hikers, bikers and wheelchair users. The three-quarter-mile Ridge and two-third-mile Pond trails are paved and accessible to disabled visitors. The graveled three-fifth-mile Marsh Trail is appropriate for hiking and bicycling.

Bicycles are allowed on all trails, but bicyclists must yield to pedestrians and wheelchairs. You're also welcome to walk your dog on the trails as long as you keep it leashed and clean up after it.

Don't forget your binoculars and field guides. A 2-acre marsh and other small wildlife watering holes attract waterfowl, turtles and frogs. Nesting boxes have been placed throughout the area, providing habitat for birds and other cavity-nesting wildlife. Birds you can expect to see and hear during your visit include herons, hawks, sandpipers, kingbirds, warblers, orioles, woodpeckers and even bobwhite quail. Other wildlife that make the refuge their home include white-tailed deer, foxes, raccoons, opossums, rabbits and squirrels.

If you're in the mood to barbecue during your visit, you can choose from two picnic areas that include pavilions, tables and cooking grills and two privy restrooms, all disabled accessible. The area ponds are fishless and provide shallow-water habitat for amphibians.

Interested in urban landscaping? Over the years, area managers have planted more than 75 species of native and nonnative trees to display the kinds of trees commonly planted in urban landscapes across Missouri. Tree identification booklets are available free of charge at the Northwest Regional Office located at 701 James McCarthy Drive in St. Joseph.

The area's main entrance is located on 36th Street between Faraon/Jules and Messanie streets in St. Joseph. As always, check the area's website (listed below) for the bird list, brochure, map and regulations before you visit.

—Bonnie Chasteen, photo by David Stonner

 70–200mm lens • f/4.5 • 1/320 sec • ISO 400

Recreation opportunities: Bicycling, bird watching, hiking and native plant landscaping demonstrations

Unique features: Multi-use trails, wildflower meadows and wildlife nesting boxes.

For More Information

Call 816-271-3100 or visit mdc.mo.gov/node/a8330.





Hunting and Fishing Calendar

FISHING

	OPEN	CLOSE
Black Bass from Ozark streams	5/26/12	2/28/13
Bullfrogs and Green Frogs	Sunset	Midnight
	6/30/12	10/31/12
Nongame Fish Gigging	9/15/2012	1/31/2013
Trout Parks	3/01/12	10/31/12

HUNTING

	OPEN	CLOSE
Coyote	5/07/12	3/31/13
Deer		
Firearms		
November	11/10/12	TBA
Furbearers	11/15/12	1/31/13
Groundhog	5/09/12	12/15/12
Pheasant		
Youth (North Zone Only)	10/27/12	10/28/12
North Zone	11/01/12	1/15/13
Southeast Zone	12/01/12	12/12/12
Quail	11/01/12	1/15/13
Youth	10/27/12	10/28/12
Rabbit	10/01/12	2/15/13
Squirrel	5/26/12	2/15/13
Turkey		
Firearms		
Fall	10/1/12	10/31/12
Waterfowl	please see the <i>Waterfowl Hunting Digest</i> or see mdc.mo.gov/node/3830	

TRAPPING

	OPEN	CLOSE
Beaver and Nutria	11/15/12	3/31/13
Furbearers	11/15/12	1/31/13
Otters and Muskrats	11/15/12	2/20/13

For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* or the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, *the Fall Deer and Turkey Hunting Regulations and Information*, *the Waterfowl Hunting Digest* and the *Migratory Bird Hunting Digest*. For more information visit mdc.mo.gov/node/130 or permit vendors.

Operation Game Thief

Help put game thieves out of business. If you see a possible violation in progress, call your county conservation agent immediately or dial the toll-free number below:

1-800-392-1111

All information is kept in strict confidence. Desirable information includes names of violators, vehicle description and license number, as well as the violation location.



"We can have a booth or a table. Any idea which tastes better?"

Contributors



BRETT DUFUR, an MDC editor, is writing a history of the Department for its 75th anniversary. He has authored numerous books on Missouri's outdoors including the Katy Trail, wine country and the Lewis and Clark Trail. He lives in Rocheport with his family and loves to paddle the Missouri River and explore wild places.

THERESA E. NELSON is a teacher and writer who enjoys spending time outdoors with her family. As a recent transplant to Missouri, the Katy Trail awed her with its beauty and diversity. When her son gets a little older, she is planning on biking the Katy with him, too.



MIKE FLEISCHHAUER enjoys almost everything outdoors, especially off-roading, and pretty much anything else that gets him in the woods. This ultimately led him to a career in forestry and he and his wife moving to the Ozarks where forests are abundant and outdoor activities are endless.

Fish for Free June 9 and 10

"Gone fishing" signs will be posted on doors across the state June 9 and 10. That weekend is Free Fishing Days in Missouri. On those two days, anyone can fish without permits, trout stamps or trout park daily tags. Every county in the state has MDC fishing areas, many with disabled-accessible facilities. For more information about places to fish, visit mdc.mo.gov/node/2478, or contact the nearest MDC office. Daily limits, length limits and other normal fishing regulations remain in effect during Free Fishing Days. Special permits may still be required at county, city and private fishing areas. Free Fishing Days are just one way MDC helps Missourians connect with nature.

AGENT NOTES *No MOre Glass*

AS A CONSERVATION agent it is our duty to protect our fish, forests and wildlife resources, including keeping our state waters litter free. Littering is a problem agents routinely face in the field. One state statute that people may not know is 306.325. This statute prohibits the possession of glass containers on state waters. The statute states any person entering, traveling upon or otherwise using navigable or nonnavigable waterways by vessel or innertube and transporting foodstuffs or beverages shall:

- Use a cooler, icebox or similar nonglass container, and shall not use, other than containers for substances prescribed by a licensed physician, any glass container for beverages on a vessel or within the banks of navigable waterways.
- Use a cooler, icebox, or similar nonglass container sealed in a way that prevents the contents from spilling into the water.
- Carry and affix to the vessel a container or bag suitable for containing refuse, waste and trash materials and that is capable of being securely closed.
- Transport all refuse, waste and trash materials to a place that such materials may be safely and lawfully disposed.

- Shall safely secure any glass containers to protect them from breakage or discharge into any stream.

Punishment for littering law violations range from up to a \$1,000 fine, 1 year in jail, and loss of hunting or fishing privileges or combination of all three. This law helps keep our waters clean, our wildlife healthy and allows people to enjoy these waters safely. Through a coordinated effort between community members and the Missouri Department of Conservation, you can help keep our state waters clean by joining a local Stream Team (visit mostreamteam.org for more information) or contacting your local MDC office for information (see Page 3).



Will Carr is the conservation agent for Jasper County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.

State statute 306.325 prohibits glass containers on state waters.





Subscribe online • mdc.mo.gov/node/9087 • Free to Missouri households



I Am Conservation

Members of the Reeds Spring High School Stream Team, Stream Team #432, monitor the water quality of Railey Creek, which begins at a spring in downtown Reeds Spring and flows into the James River and Table Rock Lake. Members pictured are: Yun Han, Austin Vasquezla, Dean Rogers, Andrea Studer and Kayla Hale. The stream team completes macroinvertebrate sampling and water chemical tests. In addition, students learn map reading, stream deposition and erosion, environmental law and legislation, and local karst topography. At the end of the school year, students conduct bioassays and write scientific papers concerning their research. "Stream Team is more than just a class; it's an active decision to do something for the greater good of our environment," says Kayla Hale. Stream Team #432 has won numerous awards for their work over the years and is a charter member in the Missouri Environmental Education Association. "The best method for protecting water quality is to create knowledgeable stewards who will look after streams today and through generations," says teacher and stream team advisor, Tonya Lewis. "That describes the Stream Team program." —*Photo by David Stonner*